Transforming a Furby toy into a multi-modal companion for children with type 1 diabetes

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Background and Aims

A teamwork including parents and people involved in the child's life is often required in the management of diabetes for children with type 1 diabetes. In particular, family has to pay close attention to the child's blood glucose level and insulin injections and teach the child to manage his/her diabetes.

To assist in this process, we developed a Furby toy-based system to motivate, educate and keep track of the child's diabetes.

Methods

The Furby toy-based system has been designed using personas and different scenarios. The main issues were represented: 1) educational part, that teaches children when to take insulin or eat with parental supervision; 2) remote control of blood glucose by parents/babysitter; 3) ease the psychological discomfort of having diabetes by using the toy to play with his/her friends.

Results

The original Furby's toy electronics were replaced so it could be controlled wirelessly by a Raspberry Pi 3 (Figure 1).

Conclusions

The implemented solution enables future expandability and modularity. It represents an example of how technological solution can be used to ease daily diabetes challenges in families.

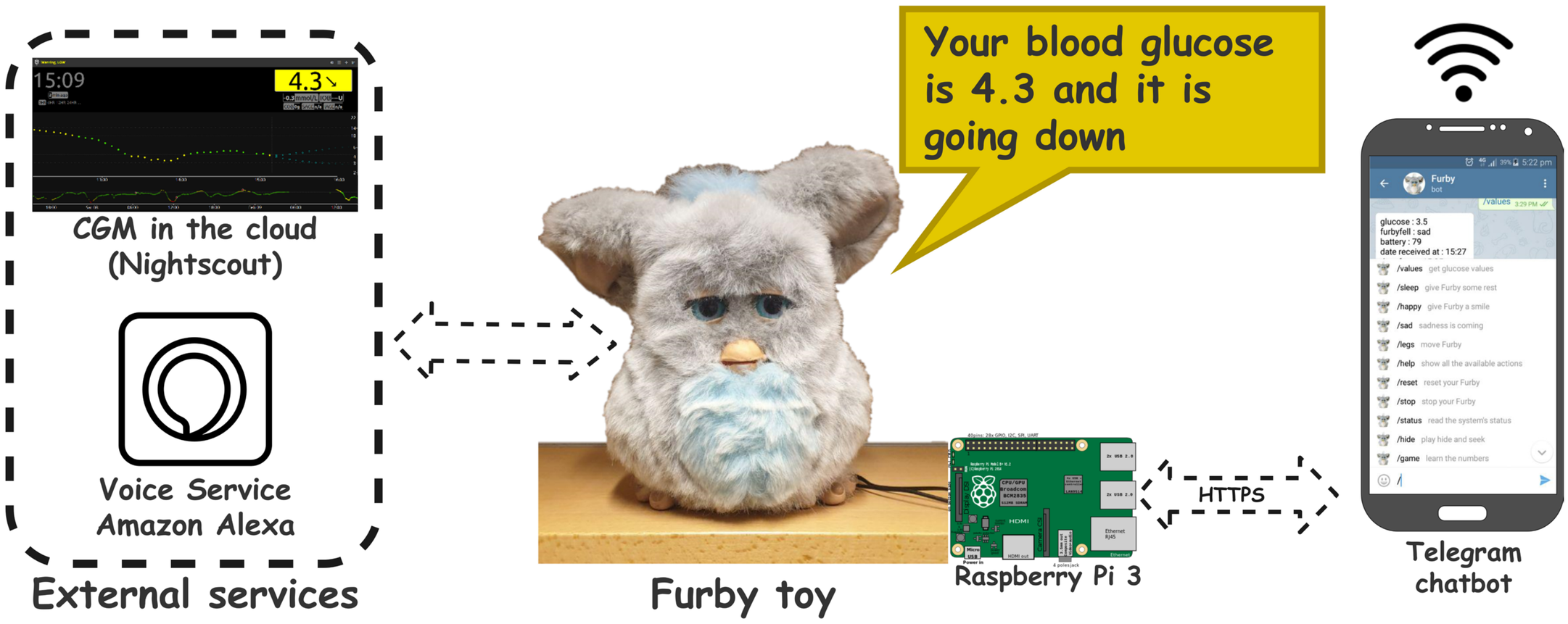

Figure 1. Furby toy-based system overview

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